

King County Environmental Purchasing 2002 Annual Report



King County
Department of Executive Services
www.metrokc.gov/procure/green

King County Government

County Executive

Ron Sims

County Council

Carolyn Edmonds	District 1
Cynthia Sullivan	District 2
Kathy Lambert	District 3
Larry Phillips	District 4
Dwight Pelz	District 5
Rob McKenna	District 6
Pete von Reichbauer	District 7
Dow Constantine	District 8
Kent Pullen	District 9
Larry Gossett	District 10
Jane Hague	District 11
David Irons	District 12
Julia Patterson	District 13

Department of Executive Services

Paul Tanaka, Director

Finance and Business Operations Division

Bob Cowan, Manager

Procurement and Contract Services Section

David Leach, Manager

Environmental Purchasing Program

Eric Nelson, Program Coordinator
Karen Hamilton, Program Analyst

Executive Summary

Environmental Purchasing Program 2002 Annual Report

In the past year, King County has purchased nearly **4 million dollars** worth of environmentally preferable products, **saving \$550,000** in doing so. Environmentally preferable products include those that have recycled content, reduce waste, use less energy, are less toxic, or are more durable. The Environmental Purchasing Program has earned national recognition as one of the most effective such programs in the Country.

The King County Recycled Product Procurement Policy (CON-7-1-1), adopted in 1989, directed County agencies to purchase recycled materials "whenever practicable." In 1995, the goals of Executive Policy were extended to include other environmentally preferable materials and processes (CON-7-1-2). The King County Environmental Purchasing Program provides County personnel with information and technical assistance to help them identify economical and effective recycled and environmentally preferable products.

Implementation of this policy relies on the judgment of the people who actually use the products in their daily work. The goal established in ordinance (KCC 10.16) is the purchase of environmentally preferable materials "whenever practicable," essentially a goal of 100% of what is realistic. The program enables agencies to use their own professional judgment to evaluate and adopt new opportunities as they are identified.

In recognition of these efforts, King County earned the first Recycled Product Procurement Award of the National Recycling Coalition, in 1991. In 1998, the County received the first annual Environmental Purchasing Award of the National Association of Counties (NACo), which recognized the County as a national leader in municipal procurement of recycled and environmentally preferable materials. And, in 2000, the County received the 2000 Recycling at Work Award from the US Conference of Mayors for the work of this program. In April 2002, staff made a presentation about the methods that have made our program successful to the first annual national Environmental Purchasing Conference, in Philadelphia. In the past year, program staff participated in several national conferences, including the annual National Congress of the National Recycling Coalition, the first annual Green Purchasing conference, of the Center for a New American Dream, and the Annual Conference of the National Pollution Prevention Roundtable.

The program assembles data on the purchases of County agencies and produces an annual report to the County Council on the status of policy implementation and accomplishments of agencies. In 2002, recycled paper represented over 97% of King County paper purchases, totaling 2.8 million dollars. Recycled paper is used for all major government functions, including more than nine million bus schedules annually, tax statements, court forms, pet license notifications, business cards, reports, stationery, and internal printing.

King County purchases many other recycled and EP products, beyond paper. These include remanufactured toner cartridges, re-refined antifreeze and motor-oil (used by all County fleets, including the fleet of 1200 Metro buses), low-VOC asphalt cold patch, plastic lumber, compost, shredded wood-waste, tire-retreading services, and hybrid vehicles. Many of these products are more economical than those they replace, and the County saved \$550,000 by their purchase, in 2002.

Agencies continue to evaluate opportunities to use environmentally preferable products, such as less toxic cleaning products, recycled content carpet, energy-efficient equipment, and low-toxicity pest-control methods and to incorporate sustainable building methods into construction.

Program success depends on enabling agencies to appreciate the new opportunities being created in a changing marketplace, and information is the central component of the program. In addition to producing educational seminars on specific opportunities, the program makes extensive use of the Internet. It uses email to distribute an "Environmental Purchasing Bulletin" to agency liaisons and maintains a website (www.metrokc.gov/procure/green) to make information available to agencies, suburban cities, and the community at large on the environmental purchasing experience of County agencies.



King County

Environmental Purchasing Program
Procurement and Contract Services
www.metrokc.gov/procure/green

2002 Annual Report

I. King County Environmental Purchasing.....	1
The Policy	
The Program	
Implementation	
The Challenges	
The Opportunities	
II. Purchases and Savings.....	5
Purchase Summary	
Purchase Detail	
Savings Summary	
III. Supporting Program Elements.....	12
Agency Liaison Network	
Internet Information Project	
Website	
E-mail Environmental Purchasing Bulletin	
Internet Discussion Groups	
Public Involvement	
Publicity	
Model Procurement Policy	
Allied King County Programs	
IV. Environmental Initiatives of County Agencies.....	18
Green Building	
Water Conservation	
Waste Reduction and Recycling	
Air Quality	
Energy Conservation	

I. King County Environmental Purchasing Program

This annual report summarizes the achievements of King County agencies from July 1, 2001 through June 30, 2002, pursuant to the King County Environmental Purchasing Policy.

In the past year, King County continued to increase its use and awareness of environmentally preferable products. Consultation with King County Environmental Purchasing staff continues to be sought by other municipalities in the County and across the nation. Program staff participated in local and national events, such as the National Recycling Coalition's annual congress, the first annual Green Purchasing conference and the National Pollution Prevention Roundtable.

King County is maintaining this position of leadership through the efforts and accomplishments of County employees who actively pursue ways to use economical, environmentally preferable materials in new applications and work with vendors to promote the development of viable and economical environmental products. This report summarizes the progress of agencies toward the goals of the policy.

The Policy

The County's Environmental Purchasing Policy reflects a long-term commitment to the purchase of "environmentally preferable"* (EP) materials. King County adopted its original Recycled Product Procurement Policy (KCC 10.16, Executive Policy CON 7-1-2 – AEP) in 1989. This policy directed County agencies to purchase recycled products "whenever practicable."

In 1995, the County revised and streamlined this Executive Policy, to reflect the experience of five years of implementation by King County agencies. The revised policy requires County agencies to purchase environmentally preferable products whenever practicable and expands the commitment of agencies to the purchase of materials with lower toxicity, or greater conservation of energy, water, and other resources.

King County Environmental Purchasing policy: www.metrokc.gov/procure/green/policy.htm

*King County defines "environmentally preferable" as having a lesser or reduced effect on human health and the environment when compared with competing products that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product.

The Program

The Environmental Purchasing Program aims to fundamentally change the procurement practices of the 13,000 employees of King County and its contractors. With the full participation of the people in the agencies who make purchasing decisions, the County can attain its goal of buying recycled and other environmentally preferable products whenever practicable. The program provides County personnel with information and technical assistance to help them identify economical and effective recycled and environmentally preferable products and creates contracts for their purchase. The program helps agencies understand policy requirements and communicates specifications, contracts, and other practical information between County agencies, vendors, users, and other jurisdictions.

The program's collaborative approach, which relies on the expertise of County employees to evaluate procurement opportunities and revise procedures, is gradually changing the way agencies view these opportunities. County agencies have responded by developing ways to increase the use of recycled and other environmentally preferable products, especially where these will reduce costs, while still meeting performance standards.

Implementation

The **Procurement and Contract Services Section** of the King County **Finance and Business Operations Division** administers the **Environmental Purchasing Program** to help County agencies increase their purchase of environmentally preferable products. The program:

- researches recycled and environmentally preferable products, applications, and vendors and communicates this information to agencies to help them make environmentally beneficial purchasing decisions;
- encourages agencies to evaluate new products, assists in development of specifications and contracts, and disseminates evaluation results to County agencies and others;
- maintains an Internet website and produces an e-mail bulletin to provide users with information about the performance, cost, and availability of recycled and environmentally preferable materials, and about policy implementation strategies;
- reviews policy requirements with agencies and monitors the status of policy implementation;
- transmits the annual report of the King County Environmental Purchasing Program to the County Council, County agencies, suburban cities, other jurisdictions, and the community, to promote the exchange of information between personnel in County agencies and their counterparts in other organizations;
- coordinates development and implementation of policy models and procurement guidelines and recommends revisions to County policy;
- provides technical support to the outreach programs of the Department of Natural Resources to facilitate the implementation of policies favoring recycled and environmentally preferable procurement by suburban cities in King County;
- ensures that contracts issued by the County require recycled and environmentally preferable components whenever practicable and that contractors provide certification of this content and report amounts purchased; and
- assembles and disseminates evaluation results and reports of environmental purchases by agencies and their contractors.

The Challenges

A number of factors challenge efforts to increase environmental purchasing:

- project managers, designers, and contractors are not familiar with the use of many recycled and other environmentally preferable products and are uncertain of the ways in which they might be effectively specified and applied as substitutes for familiar products;
- developers of environmentally preferable products are often in the early stages of identifying the needs of potential customers and establishing the production, marketing, and distribution capacity to meet them;
- the use of a product must be economically responsible; the cost must be competitive, and contractors must have developed the processes and skills needed for its economical use;
- many products must meet rigorous standards maintained by various governmental and industry regulators and the modification of these standards can be a painstaking, slow, and expensive process. As these standards and specifications are often still under development, manufacturers, regulators, and users may not be equipped to deal with new materials effectively;
- developing and administering data-collection procedures to obtain information from construction and other service contracts is time-consuming and places unfamiliar demands on participants, which can be costly; and
- Agencies are still learning to balance competing claims of environmental preferability. The specifier must decide, case-by-case, how much weight to give recycled content and how much to give low toxicity, or how to balance recyclability against energy efficiency. We anticipate that trade associations and/or government regulators will develop standards and specifications to clarify these issues.

The Opportunities

The Program and County agencies are addressing these challenges by:

- maintaining liaisons between agencies and the Environmental Purchasing Program to facilitate policy implementation and data collection;
- assembling detailed application information and performance data from product users and manufacturers and disseminating this to potential users in the County;
- seeking new applications for recycled and other environmental products and encouraging supply and contract managers to specify them whenever possible;

- helping agencies develop specifications for environmental products whenever evaluations establish that product performance and cost are acceptable;
- evaluating environmental product performance in new applications through testing and pilot programs and sharing the results through our website, the email “Environmental Purchasing Bulletin,” and by other means with agencies, jurisdictions, and other users;
- helping potential suppliers obtain feedback from users to assist them in product development and helping them understand King County procurement processes; and
- expanding our communication network so we can share information about our experiences with other organizations.

II. Purchases & Savings

Purchase Summary

In the past year, King County has **purchased nearly 4 million dollars** worth of environmentally preferable products, **saving \$550,000** by doing so. Environmentally preferable products include those that have recycled content, reduce waste, use less energy, are less toxic, or are more durable. The Environmental Purchasing Program has earned national recognition as one of the most effective such programs in the Country due, in part, to our emphasis on cost-effective products.

King County purchases many of these products through centrally administered contracts, which enable agencies to purchase materials at low and consistent prices. While some products, such as recycled paper, are well established in the marketplace, others are not, and their purchase is less straightforward. These purchases depend on project-specific materials requirements, acceptance by State, Federal, and other external standards organizations (e.g. ASTM, AASHTO), product performance, price, and availability.

The table below summarizes year 2002 environmentally preferable product purchases. This data is obtained from “term” supply contracts, which require vendors to report purchases to the Environmental Purchasing Program. Program staff also relies on agency contacts to obtain additional details for this report. Details of purchases and product performance follow in the “Purchase Detail” section.

Commodity Purchases	Per	Units	\$
Aggregate, Recycled Concrete	Ton	2,820	22,561
Air Filters, Dry Cleaned	Each	N/A	826
Antifreeze, Remanufactured	Gallon	18,547	48,238
Asphalt, Cold Patch	Ton	25	10,301
Can Liners, Recycled	Case	8,788	130,476
Compost	Yard	1,875	38,875
Electronics Recycling	N/A	N/A	2,167
Fluorescent Lamp Recycling	N/A	N/A	2,775
Glass, Filtration sand	Ton	3.5	422
Hydrostripping Services	N/A	N/A	7,557
Lubricants, Vegetable-based	Gallon	277	3,150
Oil, Re-refined	Gallon	78,365	203,773
Paper, Copy and Bond	N/A	N/A	665,172
Paper, Printing	N/A	N/A	1,649,682
Paper Products, Miscellaneous	N/A	N/A	486,353
Plastic Lumber	N/A	N/A	3,337
Shredded Wood	Yard	68,830	58,417
Tire Retreading	N/A	N/A	119,596
Toner Cartridges, Remanufactured	Each	4,380	137,778
Vehicles, Hybrid	Each	17	317,050
Total Dollars:	N/A	N/A	3,908,506

Purchase Detail

Aggregate, Recycled Concrete

Recycled concrete aggregate has been used in various King County projects over the past twelve years. Last year, the **Operations** section of **Roads Division** purchased **2,820 yards** of recycled concrete (and asphalt), at a cost of **\$22,500**, for use in small maintenance projects. Using recycled material in place of increasingly scarce and expensive native rock aggregate saves money, as well as diverting material from the waste-stream. For more information, visit the program website at: www.metrokc.gov/procure/green/concrete.htm

Air Filters, Dry Cleaned

In 2002, the **Renton Equipment shops** of the **Department of Transportation** initiated a new program to reduce replacement costs of heavy equipment air filters and reduce the number of used filters being sent to the landfill. The Division has contracted with a local company, to “dry-clean” (with a sonic cleaning process) the dirty air filters of heavy equipment. The Division expects to **save \$7000** in 2002 and reduce the number of air filters sent to the landfill by more than 200. For more information, see the Environmental Purchasing Bulletin on the program website at: www.metrokc.gov/procure/green/bul73.htm.

Antifreeze

County agencies have purchased antifreeze, manufactured with re-refined ethylene glycol, under a contract maintained by **Procurement Services Section** since 1991. In 2002, **Motor Pool, Solid Waste Operations, the Renton Maintenance Facility, and the Transit Non-Revenue Vehicle Shop** used over **1,500 gallons** of re-refined antifreeze. This contract also requires that the material be re-refined in a manner that meets all regulatory requirements, thereby avoiding the discharge of a toxic material into local waterways and ensuring compliance with State and Federal regulations.

In 1999, the County’s **Metro Transit** Division awarded a contract for re-refined concentrated ethylene glycol antifreeze for buses. They introduce the “additive packages” in the maintenance shops. In 2002, they purchased **over 17,000 gallons** of re-refined antifreeze, at a cost of over **\$42,000**, and **saved over \$30,000** by its use. Total purchases, in 2002, including Transit and other County fleets were over **18,500 gallons**, at a cost of over **\$48,000**. **5,000 gallons** of spent antifreeze was returned to the supplier for “closed-loop” re-refining into new antifreeze. For more information about King County’s use of antifreeze, visit the program website at: www.metrokc.gov/procure/green/antifrz.htm

Asphalt

In 2000, the **King County Roads Operations** section initiated an evaluation of the performance of a new **cold-patch** compound that reduces the amount of Volatile Organic Compounds (VOCs) released to the environment. This product is a dry, odorless, ready-to-use asphalt-based compound used to repair potholes, cracks, and other defects in paved surfaces. It contains 70% post-consumer asphalt. In the past year, King County has purchased almost **1,000 - 50 lb. bags**, or approximately **25 tons**, of this product at a cost of over **\$10,000**. According to the manufacturer, this amounts to 500 55 gal. drums worth of VOC’s prevented from being introduced into the air and water in King County so far this year. In 2001, **Roads Division** included this cold-patch product on its roads maintenance materials contract and in 2002, **Airport Division** began trials of this material. For more information, visit the program website at: www.metrokc.gov/procure/green/bul65.htm

Can-Liners

In 2002, King County purchased nearly **8,800 cases** of can-liners at a cost of over **\$130,000**. These were made with 25%-30% high-density polyethylene (HDPE) or 25% low-density polyethylene (LDPE) recycled post-consumer plastic. Recycled plastic bags have been used with good results since 1991. For more information, visit the program website at:

www.metrokc.gov/procure/green/plasbags.htm

Compost

Compost-amended topsoil is specified for use in maintenance and construction projects. **The Roads Environmental Unit** reported that in the past year, their contractors used 1,475 cubic yards of compost topsoil, derived from both yard-waste and biosolids compost. In addition, **Roads Operations** purchased **400 cubic yards** of biosolids compost, which they mixed in with topsoil for use in maintenance projects for **Water and Land Resources Division**. Further information about the use of compost by County agencies is available on the program website at: www.metrokc.gov/procure/green/compost.htm

Electronics recycling

There is growing concern about the ultimate effects of landfill or incineration of computers and electronics, which contain a wide variety of heavy metals and other toxins. Of special concern are cathode ray tubes (CRTs), which are no longer accepted at the King County landfill, because they contain large amounts of lead (often 4 or 5 pounds each). In 2002, recognizing that an environmentally preferable alternative is needed, the **Waste Reduction and Recycling Section** of the King County **Solid Waste Division** established a trial contract to provide agencies with an opportunity to recycle obsolete computers and other electronic equipment in a way that does not further damage the environment.

Between January and June 2002, agencies recycled 120 monitors and 2,200 pounds of other electronic equipment. Agencies using this environmentally preferable recycling service, instead of disposal into the municipal waste stream, included **Property Surplus, E-911, Parks, Adult & Juvenile Detention, Roads-Environmental Labs, and Metro Transit**.

Fluorescent lamp recycling

In the year 2000, King County established a contract for recycling waste lamps, including fluorescent tubes and high intensity discharge (HID) lamps. In the past year, **Airport, Roads, Solid Waste, and Transit Divisions**, as well as the property management company for the **King Street Center**, used this contract to recycle several types of lamps, including over 6,500 4-foot straight lamps, and almost 2,200 HID lamps.

Alternatives to landfill disposal are becoming more important, as federal, state, and local regulation of mercury disposal is increasing, because these often contain significant amounts of toxic mercury. New regulations requiring lamps to be recycled can be seen at: <http://www.ecy.wa.gov/pubs/0004020.pdf>. For more information regarding King County's program to recycle lamps, see: www.metrokc.gov/procure/green/bul60.htm

Glass – Filtration Sand

The **Department of Parks and Recreation** began using recycled glass sand in place of conventional filter sand in the pool filters at the **King County Aquatics Center** in Federal Way.

An initial eighteen tons of recycled glass was installed in 1998, at a cost roughly the same as that of virgin sand. Since the results have been positive, King County Parks established a purchase contract for recycled glass sand for use by all of their pools, and has converted several more pools to this material, including Mount Si pool in North Bend, in 2001. For more information, visit the program website at: www.metrokc.gov/procure/green/pksglass.htm

Hydrostripping

At the end of 2000, the King County **Traffic Maintenance Unit** set up a pilot program for hydrostripping damaged aluminum signs. Hydrostripping uses high-pressure water to remove paint and laminate from signs, and the water is re-used to minimize environmental impact. According to the Sign and Marking Supervisor, "It costs approximately half as much to refurbish the sign as it does to purchase new aluminum sign blanks." In 2001, the County established a contract for these services and saved approximately \$7500 in the past year. For more information, visit the program website: www.metrokc.gov/procure/green/bul69.htm

Lubricants, Vegetable-based

Vegetable oil based lubricants are emerging as a high-performance, environmentally friendly alternative to the more commonly purchased petroleum oil lubricants. Users choose biobased lubricants because they can perform as well or better than petroleum oils, are readily biodegradable and low in toxicity, and offer worker safety advantages.

Hydraulic oils are of specific concern because they are often lost to the environment in the normal course of equipment operation. Last fall, the **Renton Maintenance Facility** awarded a contract for vegetable-based hydraulic oils, two-cycle engine oils, and bar & chain oils for their equipment, to comply with provisions of the Federal Endangered Species Act and other regulations intended to protect our sensitive waterways and groundwater. The agency also specifies that manufacturers fill new turf maintenance equipment with vegetable-based oils. For more information, visit the program website: www.metrokc.gov/procure/green/bul59.htm

Oil, Re-refined

Motor oil made with re-refined base-stock has been used in County vehicles operated by the **Renton Maintenance Facility**, and **Solid Waste Operations** since 1992. In 1999, the **Transit Division** began evaluating the use of re-refined oil in their buses. They tested 15W40 oil in all of the coaches at one of their downtown bus bases and the trials showed re-refined oil to be equal in price and performance to virgin oil. In the Fall of 1999, METRO Transit became one of the first major metropolitan Transit authorities in the nation to adopt the use of re-refined motor oil for its entire fleet of over 1200 buses. Please see the press release for more information: www.metrokc.gov/exec/news/2000/021400.htm

Since 1998, **Medic-One** emergency vehicles, operated by the **Department of Public Health** have obtained warranty-maintenance service from their Ford dealership using re-refined oil.

In 2002, the County purchased almost **80,000 gallons** of re-refined oil at a cost of over **\$200,000**. For more information on re-refined oil, visit the program website at: www.metrokc.gov/procure/green/oil.htm

Paper, Copy and Bond

County agencies purchase recycled non-chlorine bleached paper with 30% post-consumer content. The post-consumer level meets the Federal Environmental Protection Agency's (EPA) Comprehensive Procurement Guidelines (CPG) established by Federal Executive Order 13101. County purchases of recycled paper totaled over **\$665,000** for the 2002 reporting year, which represents **98%** of total copy paper purchases.

Paper, Printing

Printing performed by the **County Printshop** and through contracts administered by **Procurement Services Section** use recycled paper whenever practicable. This includes all printing from business cards to tax and court forms and even bus timetables. During 2002, recycled paper purchases (estimate of material only, exclusive of other printing costs) reached **98%**, totaling over **1.6 million dollars**.

Paper Products

Beyond recycled copy and printing papers, the County also has several contracts that allow agencies to purchase various recycled paper products. This includes: office supplies, such as envelopes, boxes, folders and notepads; and janitorial products, such as paper towels and tissues. **96%** of these met recycled-content standards in 2002, and totaled almost **\$500,000**.

Plastic Lumber – Fleet Applications

The **Renton Maintenance Facility** of the **Fleet Administration Division** requires new dump trucks to be outfitted with recycled plastic sideboards before delivery. High-quality old growth fir had been customarily used in this application, but it is increasingly scarce and expensive. Since 1996, the Division has been retrofitting all of its trucks with recycled plastic because it is more impact-resistant and needs to be replaced less frequently, saving money in the long-term despite its somewhat higher initial cost. Because replacement frequency has been reduced from two wooden sideboards per week to less than one plastic sideboard per month, the Division is **saving \$10,000 per year** in materials costs alone. For more information, visit the program website at: www.metrokc.gov/procure/green/errlbr.htm

Plastic Lumber – Parks Applications

Parks Division has purchased **plastic lumber** for various park furnishings, including benches, tables, and playground equipment. For many of these applications, plastic lumber is preferred for its resistance to decay, graffiti and chemical damage. This material results in significant cost-savings when used as a substitute for chemically treated lumber in applications involving contact with soil and water and in other high-maintenance environments.

Parks Division purchased **eight** recycled plastic picnic tables in the fall of 2001 for Lakewood Park and Juanita Beach to replace older wood tables. They have purchased recycled plastic picnic tables in the past and have been satisfied with their results.

The **Airport Division** purchased recycled plastic/wood composite lumber for use as replacement bench slats. The carpenters who installed the plastic lumber said that the material is easy to work with and is holding up well.

Images of these and other recycled plastic park furnishings can be found on the program website at: www.metrokc.gov/procure/green/images.htm

Shredded Wood

Wood chips made from shredded land-clearing debris are used by the **Solid Waste Division** for temporary road surface at the Cedar Hills Landfill and as landscape mulch in County projects. The **Cedar Hills landfill** uses this material to provide stable driving-surfaces, especially during rainy seasons. In 2002, the landfill purchased **70,000 cubic yards** of shredded wood, at a cost of **almost \$60,000, saving an estimated \$70,000** by using recycled wood instead of virgin aggregate. For more information, visit the program website at: www.metrokc.gov/procure/green/swhog.htm

Tire Retreading

Tire retreading services worth almost **\$120,000** were used to retread tires for trucks and other heavy equipment at the **Renton Maintenance Facility, Fleet Division** and the **Cedar Hills Landfill** of the **Solid Waste Division**. Retreading a tire costs about half as much as buying a new tire. This not only avoided landfill disposal of tires, but also **saved** the County **approximately \$120,000** in new-tire expense in 2002.

Toner Cartridges, Remanufactured

Remanufactured toner cartridges for laser printers are purchased under a contract developed in collaboration with local vendors and maintained by the Environmental Purchasing Program since 1991. Cartridges supplied under this contract must meet original equipment manufacturer's (OEM) standards and provide full performance guarantees. In 2002, the County purchased **4,380 cartridges**, at a cost of **approximately \$140,000**. These purchases **saved \$280,000**, as the cost of these remanufactured cartridges is approximately one-third the cost of new cartridges. Spent cartridges are remanufactured and all components are recycled when their useful life is over, reducing the landfill disposal of hazardous material. The current contract has increased the number of items from 13 to 63, including ink-jet cartridges, fax and other toner cartridges, all at significant cost-savings. For more information, visit the program website at: www.metrokc.gov/procure/green/tonecart.htm.

Vehicles, Hybrid

King County is purchasing hybrid electric vehicles (HEVs) that increase fuel-efficiency and reduce greenhouse gas emissions. The County's **Department of Transportation** purchased 17 hybrid Toyota Prius Cars for over **\$315,000** in 2002. These hybrid electric vehicles combine the internal combustion engine of a conventional vehicle with the battery and electric motor of an electric vehicle, and attain twice the fuel economy of conventional vehicles. This combination offers the extended range and rapid refueling of a conventional vehicle, with a significant portion of the energy and environmental benefits of an electric vehicle. The practical benefits of HEVs include improved fuel economy and lower emissions compared to conventional vehicles. This purchase adds to the 20 hybrid cars purchased in 2001 at roughly the same cost as typical vehicles. For more information, see the Environmental Purchasing Bulletin on the program website at: www.metrokc.gov/procure/green/bul66.htm

Savings Summary

In 2002, the County **saved \$550,000** by purchasing environmentally preferable materials. The Environmental Purchasing Program has helped agencies identify opportunities to purchase environmentally preferable products that not only perform well, but also save money. In some cases, the product simply costs less and in other cases there are savings in installation and maintenance costs. For example: the cost of a remanufactured toner cartridge is about one-third the cost of a new cartridge, shredded wood costs less than virgin aggregate, plastic lumber avoids the consumption of virgin timber and reduces maintenance cost, buying concrete aggregate avoids the consumption of virgin aggregate, and it costs half as much to retread a worn tire as to buy a new one.

The table below estimates the cost savings based on purchase price only, and does not reflect savings in maintenance and installation. Additional examples of savings can be found in Section IV, "Environmental Initiatives of County Agencies" of this report (see page 18).

Commodity	2002 Dollar Savings
Toner cartridges	280,000
Tire Retreading	120,000
Shredded Wood	69,000
Antifreeze	30,000
Aggregate	22,500
Plastic lumber	10,000
Hydrostripping Services	7,500
Filter cleaning	7,000
Compost	2,000
Total Dollars:	\$548,000

III. Supporting Program Elements

The Environmental Purchasing Program helps agencies develop practical ways to use recycled and other environmentally preferable products and processes, through several program elements, detailed in this section.

Agency Liaison Network

The program uses a network of liaisons within agencies to provide users with information on environmentally preferable products and processes. These liaisons allow us to reach the people who do the daily work, and who can help us understand the roles and functions within each unit. This helps us to communicate new evaluation opportunities, institutionalize the routine use of these materials, and share evaluation results and specifications among agencies.

Internet Information Project

The communication capacity of the Internet has brought great changes to the way this program delivers information to its clients. This annual report, for example, is distributed principally through e-mail, with only a few paper copies produced. The program delivers most of its information to clients through email or the Internet.

Website www.metrokc.gov/procure/green

The King County Environmental Purchasing Program has maintained a website **since 1995**, as a resource to participants in the King County program as well as others in the community. There were over **140,000** visitors to the Program website in the past year. Clients visiting this website find information on King County's experience with recycled and environmentally preferable products, specifications, evaluations, contracts, and contact information.

Municipalities and other organizations throughout the nation are beginning to recognize the difference they can make to the environment by purchasing environmentally preferable products. Thanks to the leadership of King County agencies, purchasers are able to use the Internet to find information that will help them understand their opportunities in this confusing new area.

People from all over the world are taking advantage of this site and these contacts are bringing new information that County agencies, suburban cities, and others can use as we all try to develop new applications for recycled and other environmentally preferable products.

In the past year, comments and questions have been left at the program website by visitors from:

The Nations of:

Egypt
Pakistan

West Africa
South Africa

New Zealand

The States of:

California
Michigan
New Jersey

Georgia
Minnesota
Texas

Illinois
Missouri
Washington

Counties:

Nevada County, CA
Whatcom Co, WA

Snohomish Co, WA

Washoe County, NV

The Cities of:

Aleppo, Syria
Austin , TX
Brooklyn, NY
Cary, IL
Conway, SC
Dawson, IL
De Pere, WI
Everett, WA
Girard, KS
Lake Forest Park, WA
Mooresville, IN
Ontario, Canada
Richland, WA
San Francisco, CA
Seattle, WA
Solana Beach CA
Terre Haute, IN
Vancouver BC, Canada
Waverly, IA

Ames, IA
Bellevue, WA
Buenos Aires, Argentina
Chattanooga, TN
Corpus Christi, TX
Denton, TX
Doniphan, MO
Flower Mound, TX
Kirksville, MO
Las Vegas, NV
N. Carlton Victoria, Aus.
Phoenix, AZ
Saint Paul, MN
Santa Cruz, CA
Sitka, Alaska
Stafford, Virginia
Toronto, Ontario, Canada
Vashon, WA
Wellington, New
Zealand

Atlanta, GA
Bexleyheath, Kent UK
Cairo, Egypt
Clarksville, MD
Dalton, GA
Denver, CO
Elgin, IL
Forest City, NC
Kowloon, Hong Kong
Minneapolis, MN
Olympia, WA
Pinellas Park, FL
Salmon Arm, B.C., Canada
Santa Barbara, CA
Snohomish, WA
Stanhope, NJ
Valley Forge, PA
Washington, DC
Woodstock, Georgia

Universities/Schools of:

Kennesaw State University, Georgia
University of Glamorgan, UK
University of Washington

University of Concepcion, Chile
University of South Carolina

E-mail Environmental Purchasing Bulletin

The Program began producing an “Environmental Purchasing Bulletin” in 1997 to disseminate information about recycled and environmentally preferable products, events, contracts, and other resources. Recipients include participants in the program’s County liaison network, suburban cities, and others across the nation. There are currently **600** direct recipients of this bulletin. Many of these recipients originate their own list-servs and newsletters and forward the bulletin to others by those means. An index and the full contents of past bulletins can be found on the program website at: www.metrokc.gov/procure/green/bulindex.htm.

Bulletins for 2001/2002:

Low-VOC Cold-Patch
Hybrid Vehicles
Pesticide Reduction in King County
2001 Environmental Purchasing Annual Report
Sign Refurbishing
Biodiesel
Pervious Pavement
New Buses, Old Motors
Dry Cleaned Air Filters
Recycled Carpet Contract

Internet Discussion Groups

We participate in several Internet discussion groups, where we exchange environmental purchasing information with other jurisdictions, many of which now subscribe to our Environmental Purchasing Bulletin. The participants come from across the nation and bring a wide range of experience, which has been shared with County agencies for evaluation.

- **EPPNET** – Environmentally Preferable Purchasing Network, sponsored by the Northeast Recycling Council (NERC). A discussion group on environmental purchasing issues.
- **Greenyes** – a discussion group on sustainable issues.
- **IAQ@Onelist.com** – a discussion group on indoor air quality issues.
- **Manitoba Green Procurement Network** – a Canadian discussion group on Canadian and U.S. green procurement issues.
- **Waste Prevention Forum** – a discussion group managed by King County Solid Waste Division, and part of the National Waste Prevention Coalition.

Public Involvement

The King County Environmental Purchasing Program offers its experience in support of the planning, policy-development, and procurement-education activities of local jurisdictions and other organizations.

The program provides technical assistance to, and exchanges information with, suburban cities in King County, as well as state and federal agencies, and other users. In 2001-2002, program personnel participated in the following programs, conferences and workshops:

- **North American Green Purchasing Conference, Center for a New American Dream**
Presentation – Designing an Environmental Purchasing Program (April, 2002 – Philadelphia)
- **National Recycling Coalition Annual Conference**
Presentation - Buy Recycled and EPP Programs for Public Agencies (January, 2002 – Seattle)
- **National Pollution Prevention Roundtable Annual Conference**
Moderator for the session: “Architects, Government Purchasers, and Private Sector Share Environmentally Preferable Purchasing Successes” (April, 2002 – Portland, OR)
- **Alameda County Waste Management Authority: “Why Throw it Away” conference**
Presentation - Environmentally Preferred Purchasing Session (February, 2002 – Oakland, CA)
- **Oregon Sustainability Conference**
Speaker “Purchasing and Contracting: Applying sustainability to business practices” (September, 2001 – Portland, OR)
- **Green Cleaner Working Group, Center for a New American Dream**
Participating in a national teleconference, hosted by CNAD, to develop and test procurement specifications for environmentally preferable cleaning products. Participants include the CNAD Director of Procurement Strategies, and representatives of the State of Massachusetts, City of Santa Monica, and other governments. This consensus process also includes Green Seal, a private environmental standards organization, and cleaning chemists and manufacturers. At this writing, the State of Massachusetts is finalizing a bid solicitation, using the specification drafted by this group, and plans to release it in late summer. If it is successful, we intend to test it in the marketplace in the County.
- **Recycled Paper Working Group, Center for a New American Dream**
Participating in a national teleconference, hosted by CNAD, to develop and test procurement specifications for recycled paper products. Participants include the CNAD Director of Procurement Strategies, and representatives of the Cities of Santa Monica CA and Phoenix AZ, the States of Massachusetts and Minnesota, King County, Green Seal, and others.
- **King County Department of Natural Resources; Roads Workshop**
The “Building Roads with Recycled Materials” workshop explored innovations in roadway construction using recycled aggregates. This workshop featured national experts and was sponsored by the Department’s LinkUp Program (March, 2002).

Publicity

A key to the success of the King County Environmental Purchasing Program has been the exchange of practical information with other users of these unfamiliar materials. Many of these exchanges have come as a consequence of exposure through national magazines, newspapers, and other publications.

Among the publications which featured the King County Environmental Purchasing Program in 2001/2002:

WasteWise Update, EPA publication, July 2001
Environmentally Preferable Purchasing
www.epa.gov/wastewise/pubs/wwupda15.pdf

EPPUpdate, EPA publication, August 2001
"King County Reports EPP Successes"
www.epa.gov/oppt/epp/pdfs/update9.pdf

Closing the Circle News, United States White House Task Force on Recycling, Winter 2002
Publication of the Office of the Federal Environmental Executive
"Portland, Oregon's Tri-Met Bus Fleet Switches to Re-refined Oil"
Credited King County Transit's successful use of re-refined oil as a factor in their decision.
<http://www.ofee.gov/ctc/ctcwin02.pdf>

Center for a New American Dream, December 2001
"What's happening around the Country? – King County, Washington"
<http://www.newdream.org/procure/activities.html#king>

The News Tribune, Mar 20, 2002
"Workshop will address recycling for roads"
The county's Environmental Purchasing and LinkUp Programs sponsored this event.

Environmentally Preferable Purchasing (EPP) Video, 2002
City of Santa Monica documented King County's pioneering Environmental Purchasing Program for an educational video.

Model Procurement Policy

Program personnel continued to promote the development of recycled and environmentally preferable procurement policies in suburban cities by providing technical support to the Solid Waste Division's Waste Reduction and Recycling Section. The model was revised in 1997 to broaden the range of environmentally preferable products. Program personnel also provide direct technical assistance to suburban cities for policy implementation, including sharing contracts, specifications, and procurement strategies. According to the Solid Waste Division, twenty-one cities have adopted policies, based on King County's model, since 1992:

Bellevue	Burien	Carnation
Des Moines	Duvall	Enumclaw
Federal Way	Issaquah	Kent
Kirkland	Lake Forest Park	Mercer Island
Normandy Park	North Bend	Pacific
Redmond	Renton	SeaTac
Snoqualmie	Tukwila	Woodinville

Allied King County Programs

Many King County programs offer information and technical assistance to help citizens, businesses and County agencies find ways to help improve our environment. The Environmental Purchasing Program has collaborated with the following programs for the dissemination of information in 2001/02:

Waste Reduction and Recycling Programs – Business Programs, Solid Waste Division:

The various programs of the Solid Waste Division provide technical assistance to County businesses to enhance waste reduction, recycling and buy-recycled practices and recognize these businesses for their efforts. For more information, visit the program website at: <http://dnr.metrokc.gov/swd/bizprog>

LinkUp Program, Solid Waste Division

The LinkUp Program helps businesses and manufacturers to incorporate recycled materials into their products. The program offers free information resources, technical expertise and promotional assistance to eligible businesses throughout Puget Sound. For more information, visit the program website at: <http://dnr.metrokc.gov/swd/bizprog/linkup>

Hazardous Waste Management Program

Provides technical assistance on hazardous-waste issues to businesses and citizens, including free waste audits. This group administers the Envirostars recognition program, to recognize businesses that reduce and/or properly manage hazardous waste. This program has taken the lead on the Tri-County Integrated Pest Management policy. Please see the "Environmental Initiatives" section (page 17) of this report for more information on the IPM program. For more information: www.metrokc.gov/hazwaste

IV. Environmental Initiatives of County Agencies

The King County Environmental Purchasing Program helps County agencies find ways to use environmentally preferable products and processes in their work. This section contains information about the results of several environmental initiatives by which County agencies are saving time, money, and resources.

The categories of work included in this year's report are:

Green Building

Water Conservation

Waste Reduction and Recycling

Air Quality

Energy Conservation

Green Building

Green Building Program, Solid Waste Division, Department of Natural Resources & Parks

At the direction of the King County Executive, the King County Department of Natural Resources created a "Green Building Team" in 2000, with participation from several Departments and Divisions. Through these efforts, King County adopted a Green Building Initiative in October, 2001. The Green Building Team defines "green building" as "designing, constructing and operating buildings and landscapes to incorporate energy efficiency, water conservation, waste minimization, pollution prevention, resource-efficient materials, and indoor environmental quality in all phases of a building's life."

King County has adopted the LEED (Leadership in Energy and Environmental Design) rating system developed by the US Green Building Council as a standard for all buildings the county constructs, remodels, and renovates. The County registered its first project with LEED in 2002, the E-911 Emergency Communications Center, on the Department of Transportation campus in Renton. The goal is to earn a LEED certification by the Spring of 2003.

In 2002, two members of the Green Building team achieved certification as LEED experts.

Also, the team sponsored an "eco-charette", in which personnel from many agencies and a consultant explored their opportunities to pursue green building approaches in the completion of the Central/Atlantic Base Expansion Project.

For more information about King County's Green Building Program, visit the website:
http://dnr.metrokc.gov/greenworks/sus_build/green_building.htm

Green Building Initiative, administrative policy:

<http://www.metrokc.gov/recelec/archives/policies/fes93aep.htm>

Water Conservation

Water Reuse Program, Department of Natural Resources and Parks

The King County Department of Natural Resources operates two wastewater treatment plants, with another on the drawing boards, and has initiated programs to reclaim and reuse water processed in those facilities. This water is currently being used in pilot projects to irrigate sports fields and golf courses and in various industrial processes. While not approved for drinking, it is deemed safe for these uses by the Department of Public Health. The pilot projects are part of a long-term effort to conserve water and turn used water into a resource.

King County Parks and the City of Tukwila have pioneered the use of reclaimed water for irrigating their athletic fields in this region, and have saved almost 21 million gallons of drinking water since 1998.

King County is just beginning the process of siting a reclaimed water production facility in the Sammamish Valley. From June, 2001 to March, 2002, King County undertook a demonstration project to test several new advanced treatment technologies to reclaim wastewater. Information from this demonstration project will help make decisions on the advanced treatment technologies that will be chosen for the first reclaimed water facility and for future reclaimed water technologies to be used at the new regional treatment plant project.

For more information, visit the program website at:
<http://dnr.metrokc.gov/wtd/reuse/index.htm>

Waste Reduction and Recycling

Paper Reports Reduction – Finance Division

As a part of the countywide budget reductions efforts, the Finance Division will no longer print and distribute ARMS financial reports. These reports are now available on the County Intranet. This will eliminate almost 600,000 pages of reports and save the County over \$16,000 per year.

King County WasteWise Program – Solid Waste Division

The Solid Waste Division maintains King County's membership in the EPA WasteWise program, which recently won the "Partner of the Year" award in the local government category for its 2001 accomplishments.

For more information, visit the program website: <http://dnr.metrokc.gov/swd/bizprog/ww/>

Integrated Pest Management Program, Hazardous Waste Management Program

In 1999, the County developed an Integrated Pest Management (IPM) Program and adopted policy and guidelines to reduce overall use of pesticides on public lands. An IPM steering committee, facilitated by the King County Hazardous Waste Management Program and composed of personnel from Parks, Roads, Airport, Facilities Management, and other agencies, collaborated to implement this policy. The first priority was to phase out the most hazardous pesticides, which are listed as “Tier One” products in the guidelines. King County decreased its total use of pesticides 50 percent in the first year, and achieved an additional thirty percent reduction last year.

County agencies have begun to conduct trials to evaluate the effectiveness of alternative weed-control methods, such as hand-pulling weeds, using new tools such as flame weeders and weed wrenches, and application of large amounts of mulch for weed suppression. Details on the IPM program are available on the King County website at: www.metrokc.gov/hazwaste/ipm.

Native Plant Salvage, Water and Lands Resources Division, Department of Natural Resources and Parks

King County opened a second Native Plant Holding area near Sammamish last fall. The original nursery, established in 1992, is in Redmond. Currently, more than 15,000 plants and 50 species are in stock and ready to be planted. Since the program started, 4,300 volunteers have salvaged over 34,000 plants from construction sites throughout the county. The plants are used in re-vegetating streambanks and wetlands to help control erosion, filter pollutants, and provide food and shelter for wildlife. Using salvaged plants has saved \$200,000 on habitat restoration projects.

Further details on this program can be found at the website:
<http://dnr.metrokc.gov/wlr/PI/salvage.htm>

Air Quality

Ultra Low-Sulfur Diesel Fuel, Metro Transit, Department of Transportation

Metro buses are currently being retrofitted with new catalytic soot filters that, together with new ultra-low sulfur diesel fuel, will reduce emissions by more than 90 percent. King County Metro has joined the Puget Sound Diesel Solutions Program with other agencies. This is a model program to clean up existing fleets of diesel engines in the region. King County Metro Transit has completed the first year of a two-year program that will retrofit 800 buses. All future buses will be purchased with this new technology. For more information, the press release is available on the King County website at: www.metrokc.gov/kcdot/news/picturearch/pw010709_cleanair.htm

Clean Air Initiative, Department of Natural Resources and Parks

In January 2002, King County adopted a “Clean Air Initiative.” This initiative called for an inventory of King County’s year 2000 greenhouse gas emissions to identify the activities that produce the largest emissions. The 2000 Inventory was recently completed and establishes a baseline from which to help set priorities and measure King County’s success. This data will be used to create an action plan for change.

Concern about global climate effects has driven changes already taking place in the County, such as the purchase of hybrid vehicles, the installation of particulate traps on existing county buses and conversion of diesel fuels to ultra-low-sulfur grade. In addition to adopting the Clean Air Initiative, King County joined the International Council for Local Environmental Initiatives (ICLEI) “Cities for Climate Protection” campaign in January, 2002.

Visit the website to view a copy of the Clean Air Initiative (Executive Order):

www.metrokc.gov/recelec/archives/policies/ph1101ao.htm

Hybrid Buses, Metro Transit, Department of Transportation

King County Metro Transit will be the first in-service demonstration site in the nation for testing an articulated hybrid bus. The demonstration unit is scheduled for delivery in 2002. Hybrid, or gas/electric buses offer benefits over conventional diesel buses, such as smooth shifting, 30% fuel efficiency improvements and cleaner emissions than existing fleets.

For more information, please see the press release at:

<http://www.metrokc.gov/kcdot/aboutus/intransit/2001/it6-01p3.htm>

New Trolley Buses Use Recycled Electric Motors, Metro Transit, Dept of Transportation

King County Metro Transit is currently purchasing replacements for 100 electric trolleys that are being retired. These new buses have been ordered without motors and the motors from the old trolleys are being refurbished for installation in the new bus bodies. The new trolleys will be more reliable because they will use new electronics and pole technology that will allow them to stay better connected to the overhead wires.

In addition to this being the “ultimate recycling project,” according to King County Executive Ron Sims and Metro General Manager Rick Walsh, this approach will save Metro Transit about \$200,000 per coach, or \$20 million for the entire purchase.

For more information, please see the press release at:

http://www.metrokc.gov/kcdot/news/2002/nr020110_trolleys.htm

Energy Conservation

Fuel Cell Technologies, Wastewater Treatment Division

The Wastewater Treatment Division is currently soliciting bids from contractors for a demonstration fuel cell project that will use methane from treatment facilities to generate power for operations, thereby lowering electricity costs. Construction will begin in 2003. For more information, see the press release on the program website at: <http://dnr.metrokc.gov/dnradmin/press/x10125fc.htm>

Landfill Gas-to-Energy, Solid Waste Division

King County will be developing a new energy resource from the landfill gas produced at the Cedar Hills Regional Landfill. As the million tons of garbage per year decomposes, it produces several types of gas, primarily methane. Currently, this gas is collected and consumed in a high-temperature flare. The gas from Cedar Hills is capable of generating enough electricity to serve 16,000 homes. This project will be good for the environment, and will generate revenue as well as energy. Further information about this project can be found on the project website at: <http://dnr.metrokc.gov/swd/swdinfo/Lfgas.htm>

Energy Savings, Wastewater Treatment Division

In 2001, approximately \$1.7 million was saved through more efficient chemical and energy use, as well as a variety of other efficiency measures. These energy reductions were primarily made by employees at the West Point and South Treatment Plants, who suggested several ways to reduce expenditures, such as reduced heating and lighting during high-cost periods.

Transfer Stations Save Water and Electricity, Solid Waste Division

In accordance with the Environmental Awareness Program of the County's Solid Waste Division, County Transfer stations are saving water and electricity. The facilities at Algona, Renton, and Bow Lake saved the most water (15-30%) from 1999 through 2001. Renton, Houghton, Bow Lake and First Northeast saved the most electricity (16-24%) during the same period.

For more information regarding the EAP, visit the program website at: <http://dnr.metrokc.gov/swd/eap.htm>

Cover graphic used with permission, courtesy of Indiana State Department of Commerce, Recycling Market Development Program.

For more information about the King County Environmental Purchasing Program, please visit the program website at www.metrokc.gov/procure/green or contact:

Environmental Purchasing Program
King County Procurement and Contract Services Section
Finance and Business Operations Division
Department of Executive Services
821 Second Avenue, Suite 10
MS: EXC-FI-0862
Seattle, Washington 98104
(206)263-4279
(206)684-1147





King County

Environmental Purchasing Program
www.metrokc.gov/procure/green